

Amendments to the Claims:

A listing of the entire set of pending claims (including amendments to the claims, if any) is submitted herewith per 37 CFR 1.121. This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently amended) ~~A multiplier~~ Multiplier device comprising:
_____ first to n^{th} multipliers M_1 to M_n for multiplying that are configured to multiply a
carrier modulated information signal with first to n^{th} mutually phase shifted and
identical, substantially square wave mixing signals MS_1 to MS_n with 50% duty cycle,
wherein n is greater than 2,
_____ first to n^{th} weighting circuits with respective fixed weighting factors WF_1 to WF_n
that are configured to receive characterized by n being greater than 2, corresponding
outputs of said the multipliers M_1 to M_n , and to produce therefrom corresponding
weighted outputs being respectively coupled through weighting circuits W_1 to W_n with
respective fixed weighting factors WF_1 to WF_n to
_____ an adder circuit that is configured to provide a sum of the weighted outputs,
wherein:
_____ the said mixing signals MS_1 to MS_n having have respective phase angles ϕ_i
corresponding to $\phi_i = i * \Delta\phi$, and
_____ the said weighting factors WF_i corresponding to the sine values of said
respective phase angles $\phi_i = i * \Delta\phi$, with $\Delta\phi$ being the mutual phase difference
between each two phase consecutive mixing signals corresponding to $\pi/(n + 1)$ and i
varying from 1 to n .

2. (Currently amended) ~~Multiplier~~ The multiplier device according to of claim 1,
characterized by wherein n corresponding corresponds to $(N+1)/2$ for an elimination
of all harmonics up to the N^{th} order from the an output of said the adder circuit.

3. (Currently amended) ~~Multiplier~~ The multiplier device according to of claim 1 or 2,
~~characterized by said wherein the~~ mixing signals MS_1 to MS_n being are derived from
a local oscillator signal with frequency f_0 through an arrangement of fixed phase shift
means and/or frequency divider means.

4. (Currently amended) ~~Multiplier~~ The multiplier device according to of claim 3,
~~characterized by including:~~
_____ a local oscillator circuit, and supplying an oscillator signal with frequency f_0 to
_____ a serial arrangement of first to n^{th} phase shifting means shifters that is
configured to receive an oscillator signal with frequency f_0 from the local oscillator
circuit, each phase shifter providing a fixed phase shift of $\Delta\phi$ and supplying
respectively mixing signals MS_1 to MS_n to said the first to n^{th} multipliers M_1 to M_n .

5. (Currently amended) ~~Multiplier~~ The multiplier device according to of claim 4,
~~characterized by said wherein the~~ local oscillator circuit generating includes:
_____ an oscillator that is configured to provide a clock control signal with clock
frequency $n * f_0$, being supplied through
_____ a frequency divider with dividing factor n that is configured to receive the clock
control signal and to provide a frequency divided output signal to said the serial
arrangement of first to n^{th} phase shifting means shifters, each phase shifter of said
first to n^{th} phase shifting means comprising including a D-flip-flop being that is clock
controlled by said the clock control signal and providing said to provide the fixed
phase shift of $\Delta\phi$.

6. (New) The multiplier device of claim 3, including
 a plurality of fixed phase shift devices that are configured to receive the local oscillator signal and provide therefrom the mixing signals.

7. (New) The multiplier device of claim 3, including
 a plurality of frequency dividers that are configured to receive the local oscillator signal and provide therefrom the mixing signals.

8. (New) The multiplier device of claim 2, wherein the mixing signals MS_1 to MS_n are derived from a local oscillator signal with frequency f_o .

9. (New) The multiplier device of claim 8, including
a plurality of fixed phase shift devices that are configured to receive the local oscillator signal and provide therefrom the mixing signals.

10. (New) The multiplier device of claim 10, including
a plurality of frequency dividers that are configured to receive the local oscillator signal and provide therefrom the mixing signals.

11. (New) The multiplier device of claim 8, including
a local oscillator circuit, and
a serial arrangement of first to n^{th} phase shifters that is configured to receive an oscillator signal with frequency f_o from the local oscillator circuit, each phase shifter providing a fixed phase shift of $\Delta\phi$ and supplying respectively mixing signals MS_1 to MS_n to the first to n^{th} multipliers M_1 to M_n .

12. (New) The multiplier device of claim 11, wherein the local oscillator circuit includes:

an oscillator that is configured to provide a clock control signal with clock frequency $n * f_o$, and

a frequency divider with dividing factor n that is configured to receive the clock control signal and to provide a frequency divided output signal to the serial arrangement of first to n^{th} phase shifters, each phase shifter including a D-flip-flop that is clock controlled by the clock control signal to provide the fixed phase shift of $\Delta\phi$.